

REMARKS

Claims 1-8 and 11-18 will be pending in the application upon entry of this Amendment and Response. Claims 9-10 are canceled above. Claims 21-23 added above. Claims 1, 5, 8, 21 and 23 are independent.

The specification and drawings are also amended by this Amendment and Response. The amendments to the specification, as well as newly-added Fig. 14, are supported by the specification as originally filed at page 10, lines 7-9 and at claim 8.

37 C.F.R. §1.83(a) Objection to the Drawings

The Office Action objects to the drawings under 37 C.F.R. § 1.83(a), because the drawings do not show “locking hardware, pivots and hydraulic closure relate hardware”¹ as recited in claim 8. Fig. 14 has been added by the present amendment. Newly-added Fig. 14 is largely identical to Fig. 2, but Fig. 14 further includes a box 400 representative of the “locking hardware, pivots and hydraulic closure related hardware” as recited in claim 8, and as explained in the specification at page 10, lines 7 to 9.

It is noted that 37 C.F.R. § 1.83(a) explicitly permits features to be depicted as a rectangular box, so long as the invention can be understood. (See 37 C.F.R. § 1.83(a)) In this case the “locking hardware, pivots and hydraulic closure related hardware” encompasses a wide variety of door hardware now conventional and to be developed in the future. For understanding claim 8, it is not particularly germane to know the geometric details of various embodiments from the vast variety of the door-related hardware, which generically called out claim 8.

¹ As discussed below, claim 8 has been amended to recite “locking hardware for locking and unlocking the door, pivots and hydraulic closure related hardware.”

Rather, it is important to understand that this hardware can be located "in the accessory channel space" as recited in claim 8. This simple-but-advantageous relative spatial between the (various and sundry) door-related hardware and the accessory channel of the housing is most clearly shown by rectangular box 400 now shown in newly-added Fig. 14.

Rejection Under 35 U.S.C. § 102

Claims (as previously pending in U.S. patent application 09/631,148) 1-3, 5-8 and 11-18 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 4,671,016 ("Boeckx"). With respect to claims 1-3 and 8, it is respectfully submitted that the claims have been amended to overcome the rejection. With respect to claims 5-7 and 11-18, applicant respectfully traverses the rejection. Discussion follows.

A. Claims 1-3

Claim 1 has been amended to recite "a pair of clamp members," instead of a single clamp member. An exemplary embodiment of the present invention including a pair of clamp members is shown at Fig. 2 of the application, as originally filed, at reference numerals 104a and 104b. In contradistinction, Boeckx discloses a rail system wherein the clamp member is unitary. (See Boeckx at Fig. 1, reference numeral 2 and associated discussion at col. 1, lines 60 to 63.) Boeckx does not teach or suggest that its unitary clamp member 2 could be made as two pieces. For this reason, claims 1-3 (as amended) are not anticipated by Boeckx.

It is noted that the two-piece clamp member rail system now set forth in claim 1 has an important practical advantage, relative to the two-piece construction of Boeckx. Specifically, the

unitary clamp member of Boeckx can only accommodate panes or panels (*e.g.*, plate glass) having a closely toleranced surface profile and a closely toleranced thickness.

For example, if a plate glass window with a bowed surface (relative to the elongated axis of the clamp 2) is attempted to be fit into the unitary clamp 2 of Boeckx, then the bowing can cause mechanical interference between the clamp and the glass, which can make insertion of the plate glass into the unitary clamp 2 difficult or impossible.

As a further example, if a plate glass pane of too-small thickness is attempted to be secured in the unitary clamp 2 of Boeckx, it may be difficult or impossible to sufficiently deform clamp 2, without over-straining unitary clamp 2, so that clamp 2 grips the too-thin pane with sufficient clamping force.

As a further example, if a plate glass pane of too-large thickness is attempted to be secured in the unitary clamp 2 of Boeckx, there may be mechanical interference, making it may be difficult or impossible to insert the pane into unitary clamp 2. Because the pane cannot be too thick or too thin, this means that the thickness of the pane must be closely toleranced, so that the thickness does not vary too much from a nominal thickness designed to work with some predetermined unitary clamp. These closer tolerancing requirements can substantially increase the cost of the pane.

The present invention substantially mitigates these problems with its two-piece clamp construction. The pieces of the two-piece clamp can be placed about opposite major surfaces of any pane, pretty much regardless of the thickness or surface profile of the pane. This is because the separate pieces of the clamp are not constrained to each other when they are first placed around a pane or panel. This means that the invention as set forth in claim 1 allows more generous tolerancing of the pane or panel, which in tends to reduce the cost of the pane or panel.

For this reason, the one-piece versus two-piece distinction that is now being argued to distinguish claims 1-3 from Boeckx has a practical advantage as well.

B. Claims 5-7 and 11-18

Claim 5 sets forth a rail assembly that recites both "a first clamp member" and "a second clamp member." As discussed above in connection with claim 1, this is not taught or suggested by Boeckx, which utilizes a unitary clamp member instead of two separate clamp members. For this reason, claims 5-7 and 11-18 are not anticipated by Boeckx.

C. Claim 8

Claim 8 (as amended) is not anticipated by Boeckx for the following reason. Claim 8 (as amended) sets forth a rail system that recites "hardware being located at least substantially in the accessory channel space." This is not taught or suggested by Boeckx. For this reason, claim 8 is not anticipated by Boeckx.

In fact, Boeckx effectively teaches away from locating hardware in its "accessory channel."² In the Fig. 1 embodiment of Boeckx, the accessory channel is clearly too small to accommodate hardware, such as locking hardware, pivots or hydraulic closure related hardware. The Fig. 3 embodiment of Boeckx has a larger accessory channel, but this channel would not be used to accommodate hardware because the T-shaped insert 20 that is inserted into this accessory channel includes a lower portion (not separately labeled with a reference number) that substantially fills the channel. (See Boeckx at Fig. 3, reference numeral 20.) This lower portion

² It is a bit of a misnomer to refer to any portion of the Boeckx embodiments as an "accessory channel" because no accessories are disclosed to be located therein. However, this amendment will refer to the channels of the Boeckx amendment as "accessory channels" for the purpose of more clearly contrasting claim 8 with Boeckx.

would prevent insertion of hardware into the accessory channel of the Fig. 3 embodiment of Boeckx. Since it would not be possible to insert hardware into the accessory channel of Boeckx, Boeckx would not suggest an arrangement where hardware is located in the accessory channel.

The Office Action alleges that the lower portion of T-shaped insert 20 of Boeckx can be considered as locking hardware. Claim 8 has been amended to better define the hardware recited in claim 8 from the insert 20 of Boeckx. More particularly, claim 8 has been amended to clarify that the locking hardware is locking hardware for unlocking the door. The lower portion of the T-shaped insert of Boeckx cannot be used to lock or unlock the door. Therefore, the insert 20 of Boeckx clearly cannot be considered as the "locking hardware" recited in claim 8 (as amended).

Rejection Under 35 U.S.C. § 103(a)

Claim 4 (previously pending in U.S. patent application 09/631,148) stands rejected as being unpatentable over Boeckx. Applicant respectfully traverses for the reason discussed above in connection with claim 1 (the base claim of claim 4). More particularly, Boeckx does not teach or suggest a two-piece clamp member.

Patentability of Newly-Added Claims 21-23

Claims 21 and 22 have been added by this preliminary amendment. Claims 21 and 22 are supported by the specification as filed at Fig. 2 and at claim 9. Claim 21 sets forth a rail system that recites "an elongated nut strip." This is not taught or suggested by Boeckx. For this reason, claims 21 and 22 are patentable over Boeckx.

Claim 23 has been added by this amendment. Claim 23 is supported by the specification as filed at Fig. 2 and at claim 5. Claim 23 sets forth a rail system that recites "a pair of mating clamp members." This is not taught or suggested by Boeckx. For this reason, claims 23 is patentable over Boeckx.

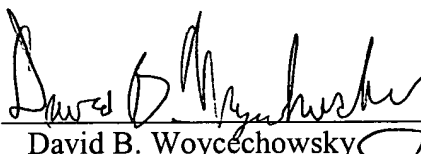
CONCLUSION

If the Examiner is of the opinion that a telephone conference with the undersigned representative would expedite the prosecution of this application, then please contact us at the telephone number listed below.

If necessary, the Commissioner is hereby authorized in this and concurrent replies to charge payment (or credit any overpayment) to Deposit Account No. 50-0683 for any additional fees required under 37 CFR 1.16 or 1.17, particularly extension of time fees.

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THE MARKED UP VERSION OF THE SPECIFICATION

2025 RELEASE UNDER E.O. 14176

Marked Up Version of Pending Claims Pursuant to 37 C.F.R. §1.121(c)(3)

1. (Amended) A rail system for securing a panel having opposing major surfaces, the rail system comprising:

a housing having [a] at least one mating surface;

[at least one clamp member] a pair of mating clamp members shaped and structured to clamp onto the panel such that the pair of clamp members respectively constrain opposing major surfaces of the panel, [the at least one] with at least one clamp member of the pair of clamp members [each] having a mating surface located to be in contact with the at least one mating surface of the housing; and

actuation hardware structured to drive pair of the clamp [member] members and the housing to move relative to each other in a driven direction;

wherein at least one of the mating surface of the housing and the mating surface of the clamp member is inclined relative to the driven direction so that at least a portion of [the clamp member] at least one clamp member of the pair of clamp members will move in a clamping direction, which is different than the driven direction, when the clamp member is driven in the driven direction by the actuation hardware; and

wherein clamping forces, caused by the movement of the clamp member in the clamping direction, are sufficient to secure [a pane] the panel.

2. (Not Amended) The rail system of claim 1 wherein the housing defines an accessory channel space.

3. (Not Amended) The rail system of claim 1 wherein the housing is unitary.

4. (Not Amended) The rail system of claim 1 wherein the actuation hardware comprises:

a screw; and

a nut.

5. (Not Amended) A rail system for releasably securing a pane having at least one major surface defining a first plane, the rail system comprising:

an elongated housing comprising:

a first inclined surface oriented to be generally inclined with respect to the first plane; and

a second inclined surface oriented to be generally inclined with respect to the first plane;

a first clamp member comprising:

an inclined surface located adjacent to the first inclined surface of the housing and oriented to be approximately parallel to the first inclined surface of the housing; and

a pane clamping surface;

a second clamp member comprising:

an inclined surface located adjacent to the second inclined surface of the housing and oriented to be approximately parallel to the second inclined surface of the housing; and

a pane clamping surface;

a screw; and

a nut threadably engaged with the screw and located to drive the first and second clamp members in a direction along the first plane in order to generate sufficient opposing clamping forces between the first clamp member and the second clamp member such that a pane can be secured between the pane clamping surface of the first clamp member and the pane clamping surface of the second clamping member.

6. (Not Amended) The rail system of claim 5 wherein the housing comprises:

a first channel wall; and

a second channel wall, the first and second channel walls being located to define an accessory channel space.

7. (Not Amended) The rail system of claim 6 wherein the screw is located so that it can be accessed through the accessory channel space sufficiently to drive the screw to rotate.

8. (Amended) [The rail system of claim 6 further comprising, in the accessory channel space,] A rail system for securing a panel, the rail system comprising:

a housing having a mating surface, with the housing defining an accessory channel space;

at least one clamp member shaped and structured to clamp onto the panel, the at least one clamp member each having a mating surface located to be in contact with the mating surface of the housing;

actuation hardware structured to drive the at least one clamp member and the housing to move relative to each other in a driven direction; and

at least one of the following types of hardware: locking hardware for locking and unlocking the door, pivots and hydraulic closure related hardware, with the at least one type of hardware being located at least substantially in the accessory channel space;

wherein at least one of the mating surface of the housing and the mating surface of the clamp member is inclined relative to the driven direction so that at least a portion of the clamp member will move in a clamping direction, which is different than the driven direction, when the clamp member is driven in the driven direction by the actuation hardware; and

wherein clamping forces, caused by the movement of the clamp member in the clamping direction, are sufficient to secure the panel.

Please cancel claims 9 and 10.

11. (Not Amended) The rail system of claim 5, further comprising:

a first pad located adjacent to the pane clamping surface of the first clamp member; and

a second pad located adjacent to the pane clamping surface of the second clamp member.

12. (Not Amended) The rail system of claim 11 wherein the first and second inclined surfaces of the housing are each inclined between 25 degrees and 35 degrees from the first plane.

13. (Not Amended) The rail system of claim 5 wherein:

the inclined surface of the first clamp member is oriented at an inclination within 2 degrees of the inclination of the first inclined surface of the housing; and

the inclined surface of the second clamp member is oriented at an inclination within 2 degrees of the inclination of the second inclined surface of the housing.

14. (Not Amended) The rail system of claim 13 wherein:

the inclination of the inclined surface of the first clamp member from the first plane is approximately 1 degree greater than the inclination of the first inclined surface of the housing from the first plane; and

the inclination of the inclined surface of the second clamp member from the first plane is approximately 1 degree greater than the inclination of the second inclined surface of the housing from the first plane.

15. (Not Amended) The rail system of claim 5 wherein the inclination of the first inclined surface of the housing with respect to the first plane is approximately equal to the inclination of the second inclined surface of the housing with respect to the first plane.

16. (Not Amended) The rail system of claim 5 wherein the housing is comprised of aluminum.

17. (Not Amended) The rail system of claim 16 wherein the housing is comprised of aluminum having an anodized finish.

18. (Not Amended) The rail system of claim 5 wherein the screw is oriented substantially parallel to the first plane.

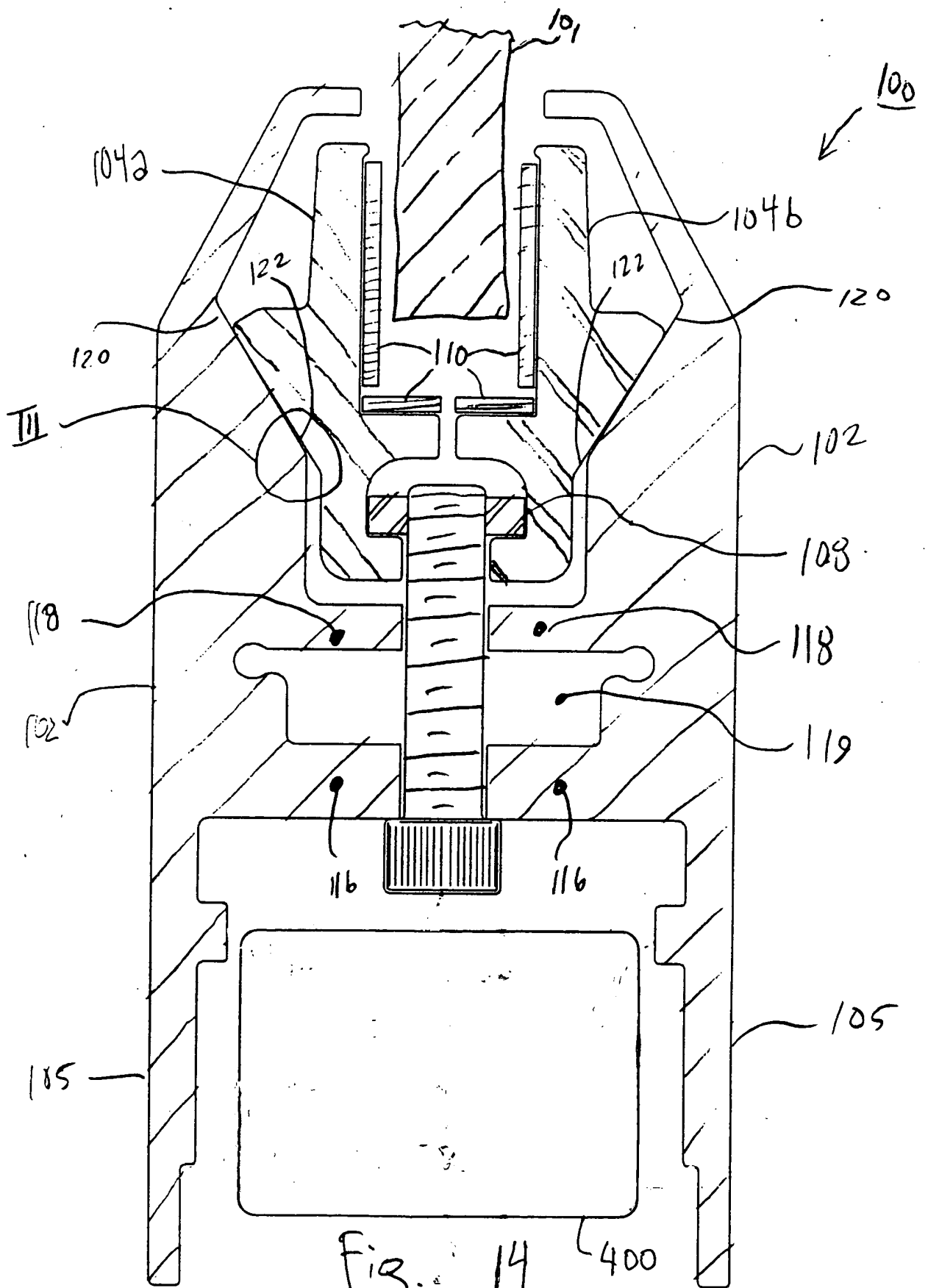


Fig. 14 400